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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,799	04/02/2004	Robert Warren	STM108-00007	9934
7590	12/30/2005		EXAMINER	
Docket Clerk P.O. Box 802432 Dallas, TX 75380			LIN, SUN J	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/816,799	<b>Applicant(s)</b> WARREN, ROBERT	
	<b>Examiner</b> Sun J. Lin	<b>Art Unit</b> 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-20 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to application 10/816,799 filed on 04/02/2004.  
Claims 1 – 20 remain pending in the application.

### QUAYLE ACTION

2. This application is in condition for allowance except for the following formal matters:

#### **Specification Objection**

Page 9, Paragraph 00021, line 10, after “maximum” insert **—time—**.

#### **Drawing Objections**

Figure 1a should be labeled as a **—(RELATED ART)—**.

Figure 1b should be labeled as a **—(RELATED ART)—**.

Figure 2a should be labeled as a **—(RELATED ART)—**.

Figure 2b should be labeled as a **—(RELATED ART)—**.

#### **Claim Objections**

Claim 1, line 4, after “another” insert **—clock environment—**.

Claim 1, line 5, before “steps” delete **—the—**.

Claim 1, line 6, before “functional” insert **—plurality of—**.

Claim 1, line 10, before “functional” insert **—plurality of—**.

Claim 1, line 12, delete **—between—**.

Claim 1, line 12, change “from one” to **—from said one—**.

Claim 1, line 13, change “to another” to **—to said another clock environment—**.

Claim 2, line 1, change “A method” to **—The method—**.

Claim 2, line 2, change “simulation step” to **—simulating step—**.

Claim 2, line 5 – 6, delete **—in said clock environments—**.

Claim 2, line 7 – 8, delete **—in said clock environments—**.

Claim 2, line 9 – 10, delete **—in said clock environments—**.

Claim 3, line 1, change “A method” to **—The method—**.

Claim 3, line 2, change “simulation step” to **—simulating step—**.

Claim 4, line 1, change “A method” to **—The method—**.

Claim 4, line 2, change “simulation step” to **—simulating step—**.

- Claim 5, line 1, change "A method" to **—The method—**.
- Claim 5, line 1, change "simulation" to **—simulating—**.
- Claim 6, line 1, change "A method" to **—The method—**.
- Claim 7, line 1, change "A method" to **—The method—**.
- Claim 8, line 1, change "A method" to **—The method—**.
- Claim 8, line 2, change "the step" to **—a step—**.
- Claim 9, line 1, change "A method" to **—The method—**.
- Claim 9, line 2 – 3, change "identifying the" to **—to identify a—**.
- Claim 10, line 1, change "A method" to **—The method—**.
- Claim 10, line 1, change "simulation" to **—simulating—**.
- Claim 11, line 1, change "A method" to **—The method—**.
- Claim 11, line 1, change "determination" to **—determining—**.
- Claim 11, line 3, change "said unknown state propagation" to **—propagation of said unknown state—**.
- Claim 12, line 1, change "A method" to **—The method—**.
- Claim 13, line 1, change "A method" to **—The method—**.
- Claim 13, line 1 – 2, change "first and second functional elements" to **—a first functional element and a second functional element—**.
- Claim 13, line 2 – 3, change "first and second synchronisers" to **—a first synchroniser and a second synchroniser—**.
- Claim 14, line 1, change "A method" to **—The method—**.
- Claim 14, line 2, change "the step" to **—a step—**.
- Claim 14, line 3, before "propagation" delete **—the—**.
- Claim 15, line 1, change "A method" to **—The method—**.
- Claim 16, line 1, change "A method" to **—The method—**.
- Claim 17, line 1, change "A method" to **—The method—**.
- Claim 18, line 1, change "A method" to **—The method—**.
- Claim 19, line 1, change "A method" to **—The method—**.
- Claim 19, line 2, before "functional" insert **—plurality of—**.
- Claim 20, line 1, change "A method" to **—The method—**.

Appropriate corrections are required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

### Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

Claims 1 – 20 are allowed because the prior art does not teach or fairly suggest the following subject matter:

- A method of testing a circuit under design having a plurality of functional elements and having a plurality of clock environments, *at least one signal passing from one clock environment to another clock environment* in said circuit, said method comprising modeling at least one of the plurality of functional elements to have an unknown state as an output for a predetermined time after a timing event of a clock signal and determining which of said plurality of functional elements is a synchronizer thereby identifying if there is a synchronization problem for the said at least one signal in combination with other limitations as recited in independent **Claim 1**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

### Examiner's Remark

4. It is well known in the art that, if a appropriate synchronizer is implemented in a circuit, a **synchronization problem** due to unknown-state propagation for a signal passing from one clock environment to another environment can **always** be avoided. Although the applicant is tentatively allowed, it is suggest that applicant should add more limitation to explain some details regarding the "determining step" of Claim 1 in order to clarify the aforementioned issue before granting of final allowance of the patent. In addition, it is also suggest that applicant should include some limitation to briefly explain purposes of the step of "simulating" of Claim 1.

**Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sun J Lin whose telephone number is (571) 272 - 1899. The examiner can normally be reached on Monday-Friday 9:30AM - 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Jack Chiang* can be reached on (571) 272 - 7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sun J. Lin  
Patent Examiner  
Art Unit 2825  
December 24, 2005

A handwritten signature in black ink, appearing to read "James Sun", is written over the typed name and date.